

**REMARKS**

Claims 1-3, 5-16, 19, 21-25, 27 and 29-32 are pending. Claims 1-3, 5-14 and 21-24 have been withdrawn from consideration. Claims 29-32 are allowed. Claims 15, 16, 19, 25 and 27 stand rejected. Claims 15 and 25 have been amended herein. Support for the amendment is as set forth below.

**Applicants' Response to Claim Rejections under 35 U.S.C. §103(a)**

Claims 15-16 and 19 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (U.S. 6,077,450) in view of Joo (U.S. 6,342,425). Claims 25-27 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (U.S. 6,077,450) in view of Joo (U.S. 6,342,425) and Hasegawa et al. (U.S. 6,452,274). In response thereto applicants have amended claims 15 and 25 in a manner so as to exclude the possibility of employing a compressive stress layer such as 80' or 800 of Joo. By doing so, applicants respectfully submit that the teaching of the capacitor of Joo is no longer combinable prior art with Lee to reach the claimed invention as amended. One skilled in the art would not combine the teachings of Joo in such a manner as to destroy its intended function (i.e., remove the stress forming layer). Hence, the present invention would not be obvious within the meaning of §103.

Specifically, applicants have in step (b) of claim 15, replaced -on- with "in direct contact with." This amendment excludes the possibility of forming a silicide layer (first different type layer 80) in contact with the upper electrode 70. Hence, Joo would not be obvious to combine with Lee to reach this invention of claim 15, because the silicide layer required by Joo cannot be included.

Similarly for claim 25, Applicants have amended the claim by requiring that the TaO layer be in direct contact with the upper electrode. Page 15, lines 16-19 of the specification.

The Office Action notes that Joo discloses the formation of a capacitor (lower electrode - dielectric - upper capacitor) and TEOS based silicon oxide insulating film, 90. Col. 4, lines 20-25, Fig. 3D. Thereafter, it is asserted that one skilled in the art would find it obvious to utilize the patterning of Lee to form the capacitor of Joo.

A combining of references under 35 U.S.C. §103(a) is only proper if the references teach or suggest a motivation to combine the limitations which make up Applicants' claims. Under U.S. Patent law, if a reference is cited that requires a modification to meet the claimed invention or be properly combinable with another reference, and such modification destroys the purpose or function of the invention disclosed, one of ordinary skill in the art would not have found reason to make the claimed modification.

In the present instance, significant consideration must be given to the fact that the intended purpose of Joo would be destroyed by the combination to meet the invention as amended. Specifically, the capacitor of Joo requires a silicide layer 80' between the upper electrode, 70 and the insulating film 90. See Col. 4, lines 36-67. The silicide creates a compressive stress on the capacitor. This is fundamental to the Joo invention.

"An object of the present invention is to provide a capacitor...where a compressive stress can be easily applied to a ferroelectric film..." Col. 2, lines 18-20.

There is no teaching or suggestion for a modification which inserts the utilization of a metal nitride and insulting mask layer over the upper electrode. Specifically, the first different type film 80 (silicide film) is in contact with the second different type film 90 (TEOS), which are in contact with the upper electrode 70. Forming the layers as set forth in amended claims 15 and 25 would prevent the compressive stress as required by Joo.

Response under 37 C.F.R. §1.116  
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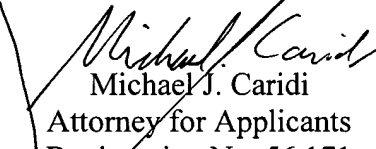
In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date. The amendments are simple and further limiting. They have been submitted in response to the Office Action and could not be submitted earlier. Applicants respectfully submit that an RCE is not necessary.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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